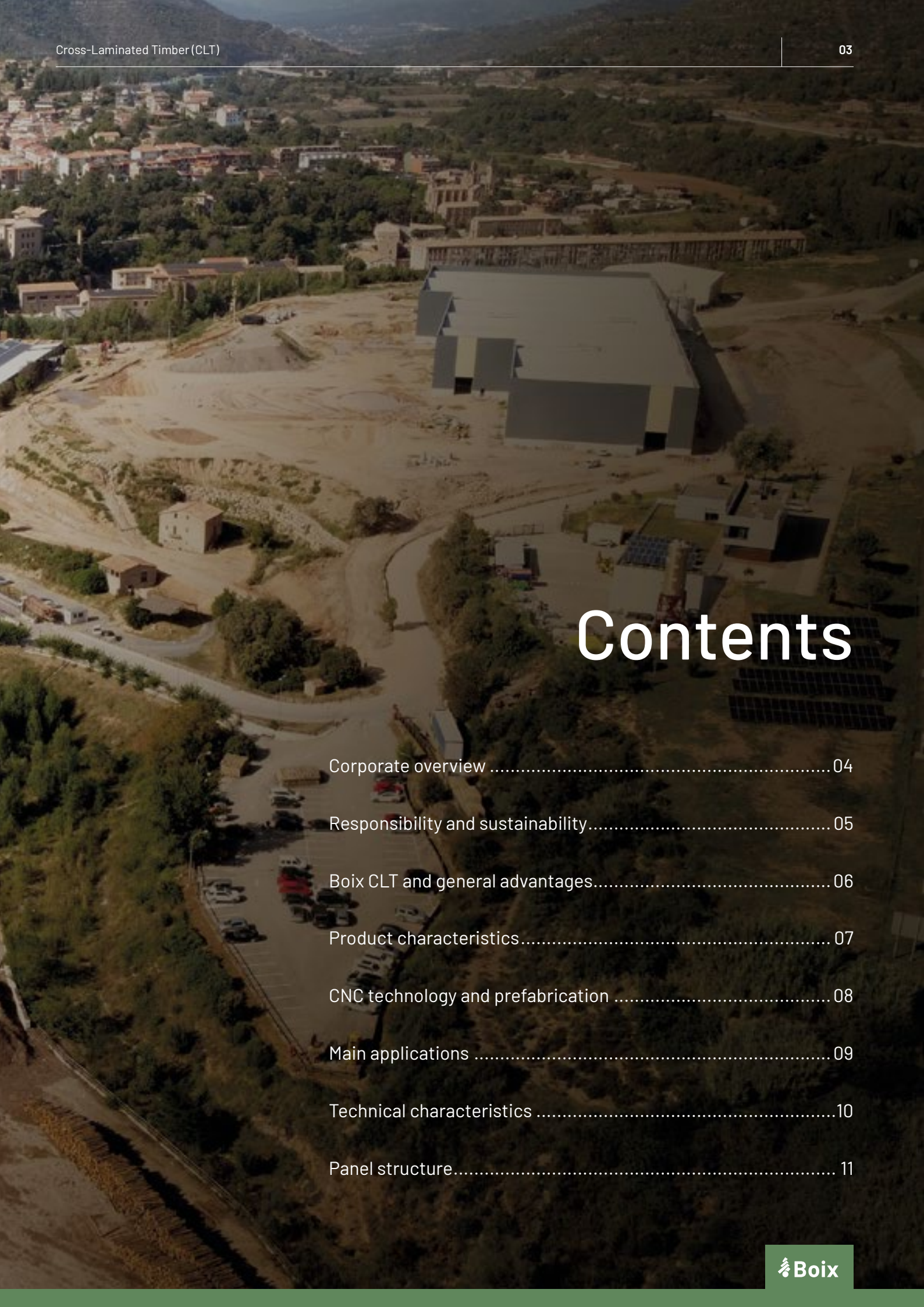
Fusta avui, bosc per sempre

Protecting the forests of today for the world of tomorrow

Cross-Laminated Timber (CLT)

Boix construcció

Protect today's forests to ensure tomorrow



Contents

Corporate overview

Company

Grup Boix is a family-owned company with more than 50 years of experience in the wood sector. We are engaged in forest management and in transforming, utilizing, and adding value to raw materials.

Under a business strategy linked to the circularity of the production process, **we promote the use of digitalized production systems and energy self-sufficiency.**

Mission

To enhance the value of the territory's natural capital through quality, locally sourced products committed to sustainability.

Vision

As an organization that generates social value and economic contribution, we work in support of the sustainable management of natural resources and the conservation of the environment as a shared social heritage.

Values

Our values are focused on sustainable forest management, the generation of social value, and the guarantee of service, quality, and capability.

Responsibility

We follow a business strategy closely linked to a **circular process** to ensure environmental preservation, fostering **sustainable development** from an ecological, economic, and social perspective.

Protect today's forests to ensure tomorrow

In Catalonia, the **forested surface area increases every year** as a result of the abandonment of forestry, agricultural, and livestock activities, leading to a growing imbalance in forest management.

This trend results in the progressive aging of forests, a reduction in CO_2 absorption capacity, and an increase in forest density, all of which entail **significant environmental risks** and reduced ecosystem resilience.

It is therefore essential to re-establish a close and local relationship with forests—based on respect, care, and appreciation—as part of the need to **mitigate the effects of climate change** that we are currently facing.

Sustainability

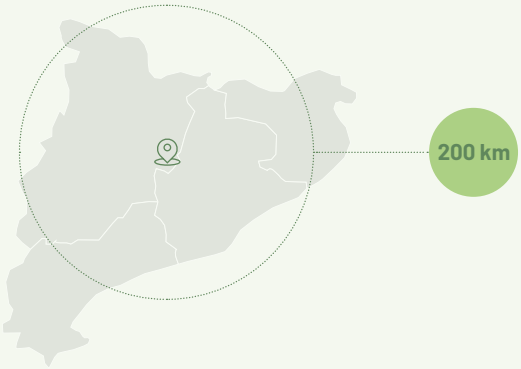
At Grup Boix, we work with the **integral utilization** of the timber log.

We operate under **PEFC forest certification,** which guarantees the sustainability of forestry activities.

We are committed to a **circular economy model** and to zero waste generation throughout the production process. We also operate an **energy self-sufficiency system**.

We hold ISO 14001 certification, which ensures an **environmental management system** across all industrial and production processes.

Grup Boix has established a **photovoltaic plant** with 2,115 panels **for energy self-production,** enabling us to meet the energy demands of the most intensive production processes.



Product application

At Grup Boix, we work with a strong commitment to sustainability. We **manage certified forests** located within a 200 km radius, allowing us to source more than 95% of our roundwood from nearby origins.

This approach reduces the environmental impact of transportation and supports the local economy, while ensuring full traceability and material quality.

ISO 14001 catforest® producte forestal catalunya CATFOREST/03-00006-ET PEFC

Boix CLT

Our CLT panels

CLT (Cross-Laminated Timber) is an engineered timber panel made of **crosswise glued layers,** providing high structural strength, dimensional stability, and construction versatility. Today, it is one of the most **innovative and sustainable materials** for the construction sector.

Our panels are designed to deliver structural performance and energy efficiency to projects. Thanks to their composition, they offer high rigidity and load-bearing capacity, making them suitable for buildings of any typology, including multi-storey structures.

With CLT, we combine strength, sustainability, and construction speed to deliver more **agile, safe, and environmentally responsible solutions.**

General characteristics

Strength and stability

Sustainability

Thermal insulation

Fire resistance

Versatility

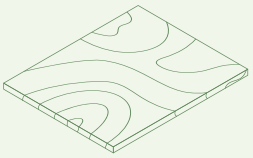
Pre-industrialized assembly

Fast installation

Structural edge bonding

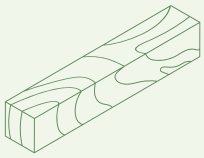
Product characteristics

We offer specialized technical consultancy to ensure the optimal integration of our products into each construction project, as well as detailed information on the material's capacities and performance. We work to adapt to the specific technical and dimensional requirements of each project.



CLT panels

Up to 16 meters in length and 3.5 meters in width.



Laminated beams

Up to 16 meters in length and 45 cm in depth (edge).

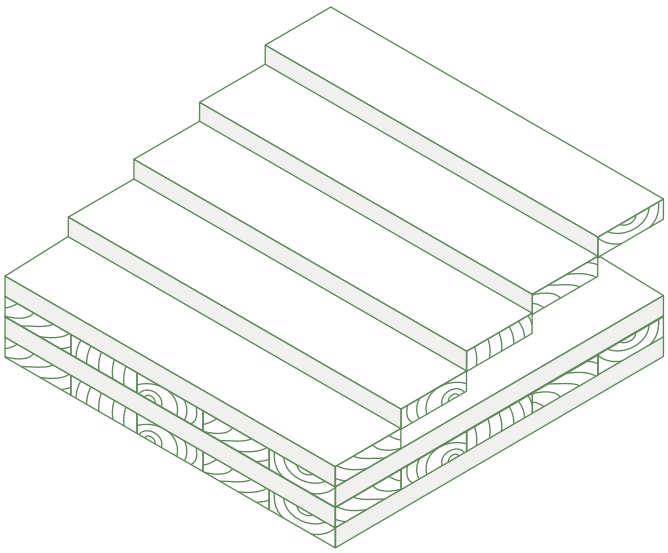
Product details

CLT panels are available in 3-, 5-, 7-, or 9-layer configurations, with layer thicknesses of 20, 30 or 40 mm, **adaptable to the specific requirements of each project.** This range allows panels to be adjusted to both structural demands and design criteria.

Their **strength is ensured** by the main strength classes C16 and C24, **in accordance with EN 338**, guaranteeing reliable and consistent structural performance across all applications.

Regarding the finish of the outer layers, panels can be supplied with a **visual grade for exposed**, high-quality aesthetics; with **non-visual grade** when aesthetic requirements are not a priority; or with an **industrial finish**, ideal when panels are intended to be clad on site.

This combination of configuration, strength, and finish provides a **versatile solution** that adapts to both the **technical and aesthetic needs** of each project, delivering CLT panels that are both functional and elegant.



Structural edge bonding				
Layer thickness	20 mm	30 mm	40 mm	
Strength class	C16	C24		
Finishes	Visual	Non-visual	Industrial	

CNC technology and prefabrication

Precision at the service of the project

At Grup Boix, we work with **state-of-the-art CNC technology**, allowing us to machine and cut each CLT panel according to customer requirements. The entire process is based on production drawings validated by the architect, engineer, or construction company, **ensuring optimal precision** in every component and a **perfect fit to the project's needs.** Through this digital prefabrication system, panels arrive on site fully prepared for assembly, reducing execution time, labor requirements, and overall costs.

Custom machining

- **Custom cuts** according to project requirements, with an accuracy of up to ±2 mm on elements with a lateral length exceeding 1 m.
- Production based on standard boards with a moisture content of 12% (±2%), ensuring **dimensional stability and quality**.
- **Milling and drilling** for doors, windows, service penetrations, and joints.
- Minimum cutting dimensions: length and width of 1 m, for technical reasons.
- **Transverse joints** included in roof and floor elements (half-lap joints or connector plates up to 90 mm in width).
- **Linear milling and rounded contours**: up to 4 m in roof/floor elements and up to 6 m in wall elements, with a maximum cutting depth of 260 mm.
- **Interior finishes:** openings are typically executed with a 20 mm radius curvature; however, straight edges can also be provided according to project requirements.
- Possibility to **define and optimize** each machining operation in collaboration with the client or the construction company.

Benefits of CNC prefabrication

Fast assembly

Panels delivered to site fully machined and ready for installation.

Precision and quality

Minimal tolerances ensuring perfect fit and assembly.

Flexibility

Each panel is machined and adapted to each project.

Digital control

Full traceability and guaranteed repeatability in panel series.

Main applications

Where our CLT panels can be used

Boix cross-laminated timber panels offer **high versatility** and can meet the requirements of different building typologies. Their **strength, sustainability, and precision** make them suitable for a wide range of construction projects.

Residential

Single-family and multi-family housing with high levels of insulation performance and comfort. CLT provides warmth and energy efficiency, while enabling faster and more sustainable construction.

Industrial

Industrial buildings and facilities requiring large spans, structural strength, and efficient assembly. CLT represents a sustainable alternative to traditional structural systems, while maintaining solidity and functionality.

Public facilities

Schools, cultural, sports, or healthcare facilities that demand healthy and efficient spaces. Cross-laminated timber contributes to a comfortable indoor environment with a reduced environmental impact.

Renovation

Interventions in existing buildings, where CLT allows structures to be extended or reinforced with lightness and speed, reducing disruption and construction time. It is an ideal solution for giving new life to existing buildings.

Technical characteristics

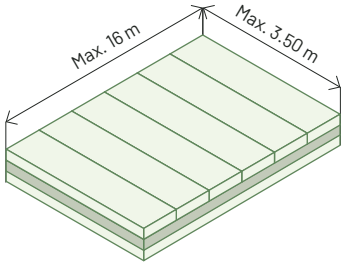
Product designation / brand	Cross-Laminated Timber (BOIX-CLT)
Application	Structural wall and floor elements
Service class	Service class 1 and 2
Wood species	Scots pine and black pine (*Pinus sylvestris and Pinus nigra*)
Number of layers	3, 5, 7
Laminations (thickness)	Between 20 and 40 mm
Strength class of layers	C24 and C16
Bonding	PUR face bonding and MUF finger-jointed connections
Wood moisture content	12% (±2%) at delivery
Maximum dimensions	Length up to 16 m | Width up to 3.50 m | Thickness up to 0.45 m
Billable widths (standard)	2 | 2.10 | 2.20 | 2.30 | 2.45 | 2.50 | 2.73 | 2.95 | 3.10 | 3.20 | 3.30 | 3.40 | 3.50
Visual quality	Non-visible (NSI) | Industrial visible (ISI) | Visible (SI)
Density	5.5 kN/m^3 for structural calculations 520–580 kg/m^3 for transport weight determination
Wood volumetric shrinkage (in panel plane)	0.02% per 1% variation in wood moisture content
Wood volumetric shrinkage (perpendicular to panel plane)	0.24% per 1% variation in wood moisture content
Thermal conductivity	λ=0.12 W/(m*K) in accordance with EN ISO 10456
Specific heat capacity	c=1500 J/(kg*K) in accordance with EN ISO 10456
Vapour diffusion	μ=300 (dry) to 46 (humid), in accordance with EN ISO 12572
Airtightness	Boards within the same layer edge-glued
Fire performance	Euroclass D-s2, d0
Charring rate	0.7 mm/min according to CTE for glued softwood timber

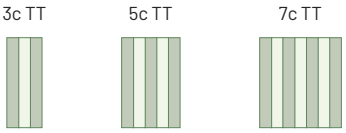
Panel structure

For walls

Outer layer oriented perpendicular to the longitudinal direction of the TT panel.

Thickness (mm)		Layers	Type	Panel layer structure (mm)						
				T	L	T	L	T	L	T
BOIX	60	3s	TT	20	20	20				
BOIX	70	3s	TT	20	30	20				
BOIX	80	3s	TT	30	20	30				
BOIX	90	3s	TT	30	30	30				
BOIX	100	3s	TT	30	40	30				
BOIX	110	3s	TT	40	30	40				
BOIX	120	3s	TT	40	40	40				
BOIX	100	5s	TT	20	20	20	20	20		
BOIX	110	5s	TT	20	20	30	20	20		
BOIX	120	5s	TT	30	20	20	20	30		
BOIX	130	5s	TT	30	20	30	20	30		
BOIX	140	5s	TT	30	20	40	20	30		
BOIX	150	5s	TT	30	30	30	30	30		
BOIX	160	5s	TT	40	20	40	20	40		

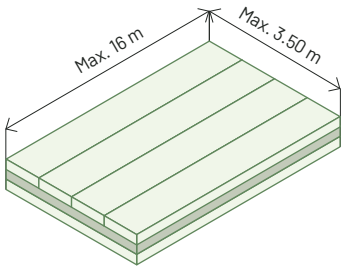


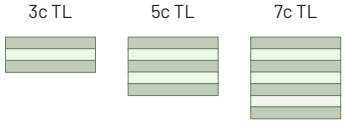


For floors and roofs

Outer layer oriented in the longitudinal direction of the TL panel.

Thickness (mm)		Layers	Type	Panel layer structure (mm)						
				L	T	L	T	L	T	L
BOIX	60	3s	TL	20	20	20				
BOIX	70	3s	TL	20	30	20				
BOIX	80	3s	TL	30	20	30				
BOIX	90	3s	TL	30	30	30				
BOIX	100	3s	TL	40	20	40				
BOIX	110	3s	TL	40	30	40				
BOIX	120	3s	TL	40	40	40				
BOIX	100	5s	TL	20	20	20	20	20		
BOIX	110	5s	TL	20	20	30	20	20		
BOIX	120	5s	TL	30	20	20	20	30		
BOIX	130	5s	TL	30	20	30	20	30		
BOIX	140	5s	TL	40	20	20	20	40		
BOIX	150	5s	TL	40	20	30	20	40		
BOIX	160	5s	TL	40	20	40	20	40		
BOIX	170	5s	TL	40	30	30	30	40		
BOIX	180	5s	TL	40	30	40	30	40		
BOIX	190	5s	TL	40	40	30	40	40		
BOIX	200	5s	TL	40	40	40	40	40		
BOIX	160	5ss	TL	30+30	40	30+30				
BOIX	180	7s	TL	20	40	20	20	20	40	20
BOIX	200	7s	TL	20	40	20	40	20	40	20
BOIX	220	7s	TL	30	40	30	20	30	40	30
BOIX	240	7s	TL	30	40	30	40	30	40	30
BOIX	180	7ss	TL	30+30	20	20	20	30+30		
BOIX	200	7ss	TL	30+30	20	40	20	30+30		
BOIX	220	7ss	TL	40+40	20	20	20	40+40		
BOIX	240	7ss	TL	40+40	20	40	20	40+40		
BOIX	260	7ss	TL	40+40	30	40	30	40+40		
BOIX	280	7ss	TL	40+40	40	40	40	40+40		
BOIX	300	8ss	TL	40+40	30	40+40	30	40+40		
BOIX	320	8ss	TL	40+40	40	40+40	40	40+40		





Boix

www.grupboix.com
grupboix@grupboix.com
(+34) 938 290 900
Ctra. C-16, Km. 81, Polígon Industrial El Saltet
08692 PUIG-REIG (Barcelona)